

2SC4558

Silicon NPN Triple Diffused Planar

☆ High h_{FE} and Low $V_{CE(sat)}$ Transistor

Application Example :
Series Regulator, Solenoid Driver, and General Purpose

● Outline Drawing 4FM20

Absolute Maximum Ratings

($T_a=25^\circ\text{C}$)

Symbol	2SC4558	Unit
V_{CBO}	100	V
V_{CEO}	80	V
V_{EBO}	6	V
I_C	6 (Pulse 10)	A
I_B	3	A
P_C	30 ($T_c = 25^\circ\text{C}$)	W
T_j	150	$^\circ\text{C}$
T_{stg}	-55~+150	$^\circ\text{C}$

Electrical Characteristics

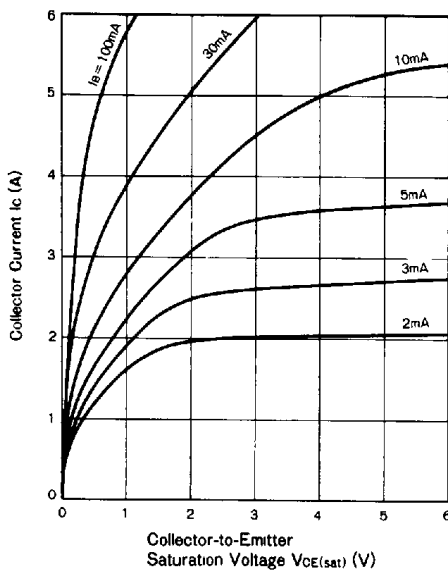
($T_a=25^\circ\text{C}$)

Symbol	Conditions	2SC4558	Unit
I_{CBO}	$V_{CB}=100\text{V}$	10max	μA
I_{EBO}	$V_{EB}=6\text{V}$	10max	μA
$V_{(BR)CEO}$	$I_C = 25\text{mA}$	80min	V
h_{FE1}	$V_{CE}=4\text{V}, I_C=0.5\text{A}$	700min	
h_{FE2}	$V_{CE}=4\text{A}, I_C=3\text{A}$	300min	
$V_{CE(sat)}$	$I_C = 3\text{A}, I_B=60\text{mA}$	0.4max	V
$V_{BE(sat)}$	$I_C = 3\text{A}, I_B=60\text{mA}$	1.5max	V
f_T	$V_{CE}=12\text{V}, I_E = -0.5\text{A}$	30typ	MHz

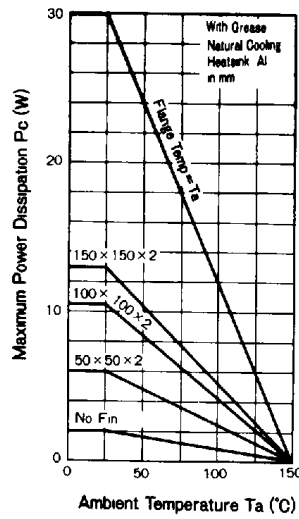
Typical Switching Characteristics (Common Emitter)

V_{CC} (V)	R_L (Ω)	I_C (A)	V_{BB1} (V)	V_{BB2} (V)	I_{B1} (A)	I_{E2} (A)	t_{on} (μs)	t_{stg} (μs)	t_r (μs)
30	10	3	10	-5	30	-30	0.9typ	5.0typ	1.5typ

$I_C - V_{CE}$ Characteristics (Typical Value)

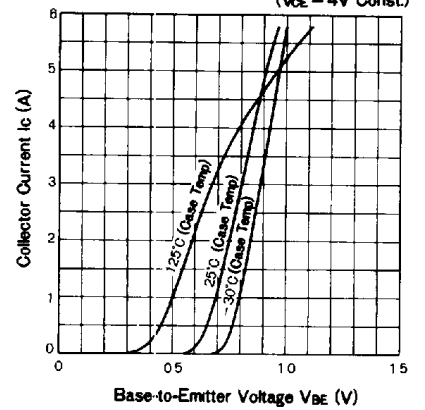


Power Derating



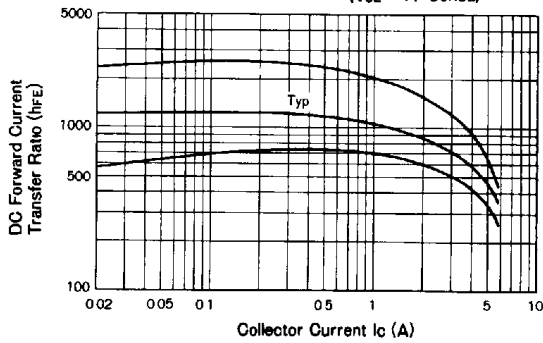
Temperature Characteristics

($V_{CE} = 4\text{V Const.}$)

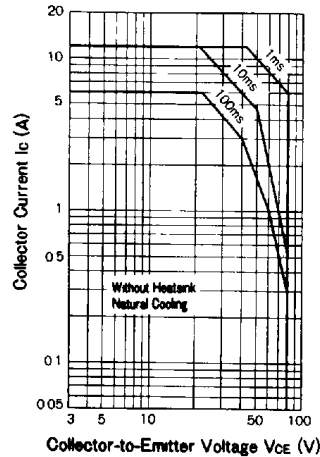


DC Current Gain Characteristics

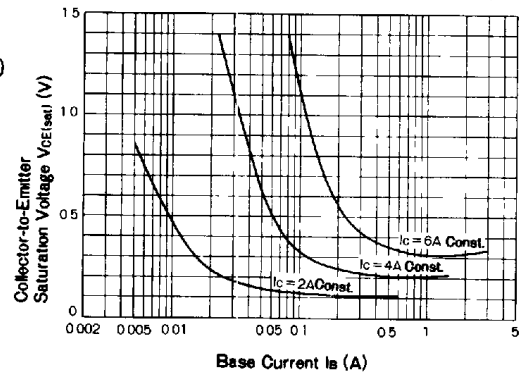
($V_{CE} = 4\text{V Const.}$)



Maximum Areas For Safe Operation (ASO) (Single Pulse)

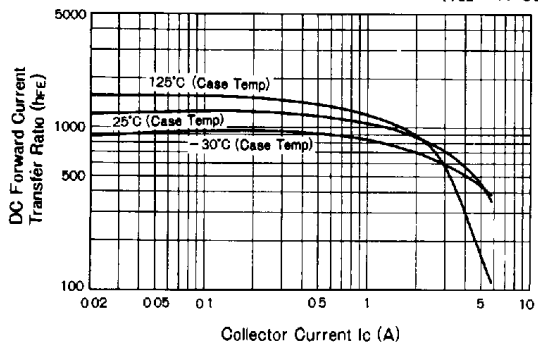


$V_{CE(sat)} - I_B$ Characteristics (Typical Value)

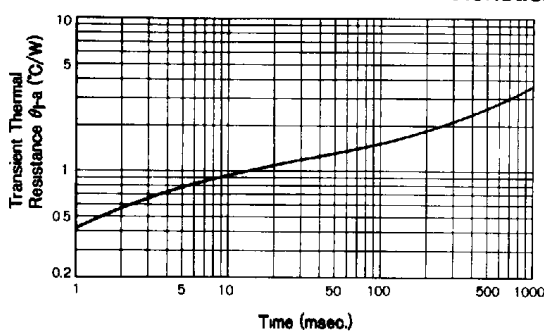


DC Current Gain Temperature Characteristics

($V_{CE} = 4\text{V Const.}$)



Transient Thermal Resistance Characteristics



$t_{on} \cdot t_{stg} \cdot t_r - I_C$ Characteristics

(Typical Value)

